Table 2 Renewable Energy Consumption by Energy Use Sector and Energy Source, 2005 - 2009
(Quadrillion Btu)

Sector and Source	2005	2006	2007	2008	2009
Total	6.407	6.825	6.719	7.367	7.745
Biomass	3.117	3.277	3.503	3.852	3.884
Biofuels	0.577	0.771	0.991	1.372	1.546
Biodiesel[1]	0.012	0.033	0.046	0.040	0.044
Ethanol[2]	0.335	0.453	0.569	0.800	0.894
Losses and Coproducts	0.230	0.285	0.377	0.532	0.607
Biodiesel Feedstock[3]	*	*	0.001	0.001	0.001
Ethanol Feedstock[4]	0.230	0.285	0.376	0.531	0.606
Waste	0.403	0.397	0.413	0.436	0.447
Landfill Gas	0.148	0.157	0.173	0.187	0.204
MSW Biogenic[5]	0.168	0.171	0.165	0.169	0.166
Other Biomass[6]	0.088	0.069	0.075	0.079	0.077
Wood and Derived Fuels[7]	2.136	2.109	2.098	2.044	1.891
Geothermal	0.343	0.343	0.349	0.360	0.373
Hydroelectric Conventional	2.703	2.869	2.446	2.512	2.682
Solar Thermal/PV	0.066	0.072	0.081	0.097	0.109
Wind	0.178	0.264	0.341	0.546	0.697
Residential	0.507	0.475	0.527	0.565	0.563
Biomass	0.430	0.390	0.430	0.450	0.430
Wood and Derived Fuels[8]	0.430	0.390	0.430	0.450	0.430
Geothermal	0.016	0.018	0.022	0.026	0.033
Solar Thermal/PV[9]	0.061	0.067	0.075	0.088	0.101
Commercial	0.119	0.117	0.118	0.125	0.125
Biomass	0.105	0.102	0.102	0.109	0.108
Biofuels	0.001	0.001	0.002	0.002	0.002
Ethanol[2]	0.001	0.001	0.002	0.002	0.002
Waste	0.034	0.036	0.031	0.034	0.034
Landfill Gas	0.003	0.004	0.003	0.003	0.003
MSW Biogenic[5]	0.025	0.026	0.021	0.026	0.025
Other Biomass[6]	0.007	0.007	0.007	0.005	0.006
Wood and Derived Fuels[7]	0.070	0.065	0.069	0.073	0.072
Geothermal	0.014	0.014	0.014	0.015	0.017
Hydroelectric Conventional	0.001	0.001	0.001	0.001	0.001
Solar Thermal/PV	-	-	-	*	*
Industrial	1.873	1.930	1.964	2.053	2.019
Biomass	1.837	1.897	1.944	2.031	1.997
Biofuels	0.237	0.295	0.387	0.544	0.620
Ethanol[2]	0.007	0.010	0.010	0.012	0.013
Losses and Coproducts	0.230	0.285	0.377	0.532	0.607
Biodiesel Feedstock[3]	*	*	0.001	0.001	0.001
Ethanol Feedstock[4]	0.230	0.285	0.376	0.531	0.606
Waste	0.148	0.130	0.144	0.144	0.160
Landfill Gas	0.081	0.081	0.093	0.093	0.113
MSW Biogenic[5]	0.007	0.006	0.006	0.003	0.003
Other Biomass[6]	0.061	0.043	0.046	0.048	0.045
Wood and Derived Fuels[7]	1.452	1.472	1.413	1.344	1.217
Geothermal	0.004	0.004	0.005	0.005	0.004
Hydroelectric Conventional	0.032	0.029	0.016	0.017	0.018
Solar Thermal/PV	-	-	-	-	-
Wind	-	-	-	-	-
Transportation	0.339	0.475	0.603	0.827	0.923
Biomass	0.339	0.475	0.603	0.827	0.923
Biofuels	0.339	0.475	0.603	0.827	0.923
Biodiesel[1]	0.012	0.033	0.046	0.040	0.044
Ethanol[2]	0.328	0.442	0.557	0.786	0.879
Electric Power[10]	3.568	3.827	3.508	3.798	4.113
Biomass	0.406	0.412	0.423	0.435	0.426
Waste	0.221	0.231	0.237	0.258	0.253
Landfill Gas	0.065	0.073	0.077	0.092	0.088
MSW Biogenic[5]	0.136	0.139	0.138	0.141	0.138
Other Biomass[6]	0.020	0.019	0.022	0.026	0.027
Wood and Derived Fuels[7]	0.185	0.182	0.186	0.177	0.173
Geothermal	0.309	0.306	0.308	0.314	0.320
Hydroelectric Conventional	2.670	2.839	2.430	2.495	2.663
Solar Thermal/PV	0.006	0.005	0.006	0.009	0.008
Wind	0.178	0.264	0.341	0.546	0.697

[1]Biodiesel primarily derived from soybean oil.

Table 2 Renewable Energy Consumption by Energy Use Sector and Energy Source, 2005 - 2009 (Quadrillion Btu) (Continued)

Sector and Source	2005	2006	2007	2008	2009

[2]Ethanol primarily derived from corn minus denaturant.
[3]Losses and co-products from the production of biodiesel. Does not include natural gas, electricity, and other non-biomass energy used in the production of biodiesel.
[4]Losses and co-products from the production of fuel ethanol. Does not include natural gas, electricity, and other non-biomass energy used in the production of fuel ethanol.
[5]Includes paper and paper board, wood, food, leather, textiles and yard trimmings.
[6]Agriculture byproducts/crops, sludge waste, and other biomass solids, liquids and gases.
[7]Black liquor, and wood/wood waste solids and liquids.
[8]Wood and wood pellet fuels.
[9]Includes small amounts of distributed solar thermal and photovoltaic energy used in the commercial, industrial and electric power sectors.
[10]The electric power sector comprises electricity-only and combined-heat-power (CHP) plants within North American Classification System (NAICS) 22 category whose primary business is to sell electricity, or electricity and heat, to the public.
MSW = Municipal Solid Waste.
PV = Photovoltaic.
* = Less than 500 billion Btu.
- = No data reported.
Notes: Totals may not equal sum of components due to independent rounding.
Data revisions are discussed in the Highlights section.
Data for 2009 is preliminary.
Energy consumption for the noncombustible renewable energy sources (hydroelectric conventional, solar thermal, PV and wind) used in electricity generation is determined by mulitiplying generation times the fossil fuel equivalent heat rate.
Energy consumption for geothermal energy used in electricity generation is determined by mulitiplying generation times the geothermal heat rate. See EIA, Annual Energy Review (AER) 2008, DOE/EIA-0384 (2008) (Washington, DC, June 2009), Table A6.
Sources: Analysis conducted by U.S. Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels and specific sources described as follows. Residential: U.S. Energy Information Administration, Form EIA-457A/G, "Residential Energy Consumption Survey;" Oregon Institute of Technology, Geo-Heat Center; and U.S. Energy Information Administration, Form EIA-63-A, "Annual Solar Thermal Collector Manufacturers Survey" and Form EIA-63B, "Annual Photovoltaic Module/Cell Manufacturers Survey." Commercial: U.S. Energy Information Administration, Form EIA-906, "Power Plant Report," Form EIA-920, "Combined Heat and Power Plant Report," and Form EIA-923, "Power Plant Operations Report;" and Oregon Institute of Technology, Geo-Heat Center. Industrial: U.S. Energy Information Administration, Form EIA-846 (A, B, C) "Manufacturing Energy Consumption Survey," Form EIA-906, "Power Plant Report," Form EIA-920, "Combined Heat and Power Plant Report," and Form EIA-923, "Power Plant Operations Report;" and Oregon Institute of Technology, Geo-Heat Center; Government Advisory Associates, Resource Recovery Yearbook and Methane Recovery Yearbook;
U.S. Environmental Protection Agency, Landfill Methane Outreach Program estimates; and losses and coproducts from the production of biodiesel calculated as the difference between energy in feedstocks and production and from the production of ethanol calculated as the difference between energy feedstocks and production less denaturants. Biofuels for Transportation: Biodiesel: Consumption: 2001-2008: Calculated as biodiesel production plus net imports, 2009: January and February: EIA, Petroleum Supply Monthly, Table 1, data for refinery and blender net inputs of renewable fuels except ethanol. March through December: Calculated as biodiesel production plus biodiesel net imports minus biodiesel stock change; Production: 2001-2005: U.S. Department of Agriculture (USDA), Commodity Credit Corporation, Bioenergy Program, 2006: U.S. Department of Commerce, Bureau of Census, Current Industrial Reports, Fats and Oils - Production, Consumption and Stocks, data for soybean oil in methyl esters (biodiesel), 2007and 2009: U.S. Department of Commerce, Bureau of Census, Current Industrial Reports, Fats and Oils - Production, Consumption and Stocks, data for fats and oils in methyl esters, and 2008: U.S. Energy Information Administration, Form EIA-22S, "Supplement to the Monthly Biodiesel Production Survey;" Trade: USDA imports data for Harmonized Tariff Schedule code 3824.90.40.20 (Fatty Esters Animal/ Vegetable Mixture) and exports data for Schedule B code 3824.90.40.00 (Fatty Substances Animal/ Vegetable Mixture, Stock Change: EIA Petroleum Supply Monthly (PSM) various reports. Table 1 data for renewable fuels except ethanol; and Ethanol: 2001-2004: EIA, Petroleum Supply Annual, Tables 2 and 16. Calculated as ten percent of oxygenated finished motor gasoline field production (Table 2) plus fuel ethanol refinery input (Table 16). 2005-2008: EIA Petroleum Supply Annual (Various Issues), Tables 1 and 15.
Calculated as motor gasoline blending components adustments (Table 1), plus finished motor gasoline adjustments (Table 1), plus fuel ethanol refinery and blender net inputs (Table 15). 2009: EIA Petroleum Supply Monthly various reports, Table 1. Calculated as fuel ethanol refinery and blender net inputs minus fuel ethanol adjustments. Small amounts of ethanol consumption are distributed to the commercial and industrial sectors according to those sector`s shares of U.S. motor gasoline supplied. Electric Power: U.S. Energy Information Administration, Form EIA-906, "Power Plant Report," Form EIA-920, "Combined Heat and Power Plant Report," and Form EIA-923, "Power Plant Operations Report."